



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,133	02/13/2004	Masahiro Kudo	100021-00141	3806
4372	7590	06/27/2005	EXAMINER	
ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			NGUYEN, KHAI M	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ER

Office Action Summary	Application No.	Applicant(s)	
	10/777,133	KUDO ET AL.	
	Examiner	Art Unit	
	Khai M. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 13-16, and 26 is/are rejected.
- 7) ☒ Claim(s) 4-12 and 17-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/13/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/13/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 13-16, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Rothenberg (US 5,933,056) (hereinafter referred to as "Rothenberg").

Regarding claim 1, Rothenberg discloses (Figs. 1 & 3) a common-mode feedback circuit outputting a control voltage (20 of Fig. 1; and/or V_{cmout} of Fig. 3) to define a common-mode operating point of a fully differential amplifier (10 or [30/32]), comprising: a voltage dividing circuit (resistors R1 and/or 50) dividing a voltage across two output ends (12/14) of said fully differential amplifier; and a differential amplifier (18

Art Unit: 2819

or transistors 48/52) receiving an output voltage of said voltage dividing circuit and a reference voltage (at node 26), wherein an output voltage (20; 44) of said differential amplifier is supplied as the control voltage to said fully differential amplifier.

Regarding claim 2, Rothenberg discloses the differential amplifier receives a midpoint (between the resistors) voltage of the voltage dividing circuit and the reference voltage.

Regarding claim 3, Rothenberg discloses the output voltage of the differential amplifier is amplified or attenuated with an arbitrary sign.

Regarding claim 13, Rothenberg discloses the differential amplifier comprises a differential pair (inputs and/or outputs) and an active load and a voltage that said active load outputs is supplied as the control voltage to said fully differential amplifier (see Figs. 1-2 and capacitive load – see column 1, lines 5-15).

Regarding claim 14, Rothenberg discloses a differential operational amplifier circuit (Figs. 1-2) comprising a fully differential amplifier (10; transistors 22/24, and a common-mode feedback circuit outputting a control voltage (20/44) to define a common-mode operating point of said fully differential amplifier, wherein said common-mode feedback circuit comprising: a voltage dividing circuit (R1/R1; 50) dividing a voltage across two output ends of said fully differential amplifier; and a differential amplifier (18; transistors 48/52) receiving an output voltage of said voltage dividing circuit and a reference voltage (at node 26), wherein an output voltage of said differential amplifier is supplied as the control voltage (20; 44) to said fully differential amplifier.

Art Unit: 2819

Regarding claim 15, Rothenberg discloses the differential amplifier receives a midpoint voltage (between the resistors) of said voltage dividing circuit and the reference voltage.

Regarding claim 16, Rothenberg discloses the output voltage of said differential amplifier is amplified or attenuated with an arbitrary sign (see Fig. 1-2).

Regarding claim 26, Rothenberg discloses the differential amplifier comprises a differential pair (inputs and/or outputs) and an active load and a voltage that said active load outputs is supplied as the control voltage to said fully differential amplifier (see Figs. 1-2 and capacitive load – see column 1, lines 5-15).

Regarding claims 4-12 and 17-25, these claims are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see the attached PTO-892).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 9:00 - 5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert (Bob) J. Pascal can be reached on 571-272-1769. The fax phone

Art Unit: 2819

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KN
June 21, 2005


PEGUY JEANPIERRE
PRIMARY EXAMINER